

Inventor: David C. Hovda, et al

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Please amend the claims in the Application as follows:

CLAIMS:

1. - 25. (Canceled).

Claim 26. (Currently amended) An electrosurgical apparatus for treating tissue of a body structure, applying electrical energy to an enlarged] body structure, said body structure comprised of a body surface, [at a target site within or on a patient's body],

the apparatus comprising:

[an electrosurgical instrument having] a shaft comprising [with] a proximal end portion and a rigid distal tip [end] portion;

an [first] active electrode disposed on the [terminal disposed at the] distal tip portion of said shaft [of the rigid distal end portion of the shaft and defining a distal point];

a return electrode disposed on [, said return electrode forming a portion of] the shaft and spaced proximally away from the active electrode,

wherein the axial spacing between the active and return electrodes on the shaft is sufficient to prevent both electrodes from simultaneously contacting the body surface during said treating; and

an electrical conductor disposed through the shaft for connecting the active electrode across a high-frequency voltage supply, wherein

[the first electrode terminal and the return electrode are adapted for connection to a high frequency power supply coupled to the first electrode terminal and the return electrode for applying a voltage difference therebetween, the] the high-frequency voltage supply is [difference being] sufficient to volumetrically remove at least a portion of [an enlarged] said body structure [to reduce a size of the enlarged body structure].

Claim 27. (Currently amended) The apparatus of claim 26, further comprising a fluid delivery element having a discharge outlet in close proximity to the active electrode, wherein said outlet is adapted for defining an electrically conductive fluid path [in electrical contact with

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~~the return electrode and the first electrode terminal to generate a current flow path] between the active electrode and the return electrode [and the first electrode terminal].~~

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Claim 28. (Currently amended) The apparatus of claim 26, wherein the rigid distal tip [end] portion of the shaft is sized for delivery into a paranasal sinus of the patient.

Claim 29. (Currently amended) The apparatus of claim 26, wherein the apparatus is adapted to ablate [treat] tissue selected from the group consisting of swollen tissue, turbinates, polyps, neoplasms, cartilage and swollen mucus membranes lining an inner surface of the nasal cavity.

Claim 30. (Previously presented) The apparatus of claim 26, wherein the rigid distal end portion of the shaft has a diameter less than 2 mm.

Claim 31. (Currently amended) The apparatus of claim 26, wherein the rigid distal tip [end] portion of the shaft has a diameter less than 1 mm.

Claim 32. (Currently amended) The apparatus of claim 26, wherein the return electrode has a tubular shape, and is disposed around said shaft.

Claim 33. (Currently amended) The apparatus of claim 26, further including a first insulating member positioned on the shaft between the active electrode and the return electrode [and the first electrode terminal, the return electrode being sufficiently spaced from the first electrode terminal to minimize direct contact between the return electrode and a body structure at the target site when the first electrode terminal is positioned in close proximity or in partial contact with the body structure].

Claim 34. (Cancelled) The apparatus of claim 27, wherein

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~~the return electrode comprises a tubular member, and the fluid delivery element comprises an axial lumen coupled to the return electrode, the axial lumen forming at least a portion of the fluid path and having an outlet in fluid communication with the first electrode terminal.~~

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Claim 35. (Currently amended) The apparatus of claim 27, wherein the fluid delivery element comprises a fluid tube extending along an outer surface of the shaft, the tube having an inlet positioned proximal to the return electrode [~~, wherein the return electrode is spaced proximally from the first electrode terminal~~].

Claim 36. (Previously presented) The apparatus of claim 27, wherein the fluid delivery element comprises a fluid supply instrument.

Claim 37. (Currently amended) The apparatus of claim 27, wherein the active electrode [~~first electrode terminal~~] comprises an electrode array disposed at the tip of the rigid distal tip [~~end~~] portion of the shaft, the array including a plurality of first electrically isolated electrode terminals disposed over a contact surface.

Claim 38. (Currently amended) The apparatus of claim 27, wherein the active electrode [~~first electrode terminal~~] comprises a single active electrode disposed at the tip of the rigid distal tip [~~end~~] portion of the shaft.

Claim 39. (Currently amended) The apparatus of claim 37, further comprising a plurality of current limiting elements each coupled to one of the [first] electrode terminals for independently controlling current flow to each of the [first] electrode terminals to inhibit power dissipation into the medium surrounding the body structure [~~target site~~].

Claim 40. (Currently amended) The apparatus of claim 26, further comprising a fluid aspiration element for aspirating fluid from the body structure [~~target site~~].

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Claim 41. (Currently amended) The apparatus of claim 40, wherein the fluid aspiration element comprises a suction lumen extending through the shaft, the suction lumen having an outlet [inlet] near the distal tip of the shaft adjacent the active electrode [first electrode terminal].

Claim 42. (Cancelled) [The apparatus of claim 33, further comprising a second insulating member disposed proximate to the return electrode, and a second electrode terminal disposed proximate to the second insulating member.]

Claim 43. (Currently amended) [The apparatus of claim 42, wherein the first and second electrode terminals are adapted for receiving independent high frequency voltage supply.] The apparatus of claim 26, wherein the high-frequency voltage supply comprises an ablation mode and a coagulation mode, and wherein in the ablation mode a first voltage is applied to the electrodes to effect molecular dissociation or disintegration of the tissue; and in the coagulation mode, a lower voltage is applied to an electrode sufficient to achieve hemostasis of severed vessels within the body structure.

Claim 44. (Currently amended) The apparatus of claim 26, wherein said distal end portion of the shaft comprises a material which can be bent [deflected] relative to the longitudinal axis of the shaft to define a distal bend portion relative to the proximal end portion.

Claim 45. (Currently amended) The apparatus of claim 26 [44], wherein the active electrode member is tapered towards the distal end to define a sharp point at the distal end].

Claim 46. (Currently amended) The apparatus of claim 26 [44], wherein the distal end portion of the shaft comprises a bend angle of about 10° to 90°.

Claim 47. (Cancelled) [The apparatus of claim 42, wherein said second electrode terminal and said return electrode terminal are connected to said power supply such that tissue in contact of the second electrode terminal is coagulated.]

Claim 48. (New) The apparatus of claim 26, wherein the spacing between the active electrode and the return electrode on the shaft is greater than about 1 mm.

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Claim 49. (New) The apparatus of claim 26, wherein the active electrode is coated with a conductive gel.

Claim 50. (New) The apparatus of claim 26, wherein the high frequency voltage supply comprises a controller for regulating the voltage difference across the active and return electrode.

Claim 51. (New) An electrosurgical apparatus for treating target tissue within or on a patient's body, said tissue including a tissue surface area, the apparatus comprising:

a shaft comprising a proximal end portion and pointed distal tip portion;

an active electrode disposed on the distal tip portion a distal point;

a return electrode disposed on the shaft and spaced proximally away from the active electrode,

wherein the axial spacing between the active and return electrodes on the shaft is sufficient to prevent the return electrode from contacting the tissue surface during said treating; and

electrical conductors disposed through the shaft for connecting the electrodes across a high-frequency voltage supply, wherein

the high-frequency voltage supply is sufficient to volumetrically remove at least a portion of said body structure.

Claim 52. (New) The electrosurgical apparatus of claim 51, wherein the spacing between the active and return electrodes is greater than about 1.0 mm.

Claim 53. (New) The electrosurgical apparatus of claim 51, including a high frequency voltage controller for providing said high frequency voltage potential across the active and return electrodes.

Claim 54. (New) The electrosurgical apparatus of claim 51, comprising a fluid delivery element having a discharge outlet in close proximity to the active electrode, wherein said outlet is adapted for forming an electrically conductive fluid path between the active electrode and the return electrode.

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Claim 55. (New) The electrosurgical apparatus of claim 51, comprising an insulating member positioned on the shaft between the active electrode and the return electrode, said insulator being sufficient to prevent arching between the electrode on application of the high-frequency voltage.

Claim 56. (New) The electrosurgical apparatus of claim 51, wherein the active electrode is coated with a conductive gel.

Claim 57. (New) The apparatus of claim 51, wherein the high frequency voltage supply comprises a controller for regulating the voltage difference across the active and return electrode.

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If an issue remains that can be resolved by a telephone conference, please contact the undersigned at telephone (408) 735-6486.

Sincerely,



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